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SNOW SURVEYS AND IRRIGATION WATER FORECASTS

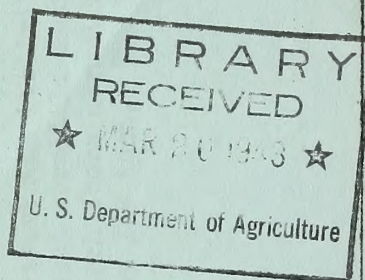
for the

MISSOURI and ARKANSAS

DRAINAGE BASINS

March 1, 1943

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Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

March 10, 1943

REPORT ON THE PROGRESS OF THE WORK DURING THE YEAR 1904

1904

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The following is a summary of the work done during the year 1904.
The work was done in the following order:
1. The first part of the work was done in the month of January.
2. The second part of the work was done in the month of February.
3. The third part of the work was done in the month of March.
4. The fourth part of the work was done in the month of April.
5. The fifth part of the work was done in the month of May.
6. The sixth part of the work was done in the month of June.
7. The seventh part of the work was done in the month of July.
8. The eighth part of the work was done in the month of August.
9. The ninth part of the work was done in the month of September.
10. The tenth part of the work was done in the month of October.
11. The eleventh part of the work was done in the month of November.
12. The twelfth part of the work was done in the month of December.

REPORT ON THE PROGRESS OF THE WORK DURING THE YEAR 1904

SNOW SURVEYS AND IRRIGATION WATER FORECASTS FOR MISSOURI AND ARKANSAS RIVERS

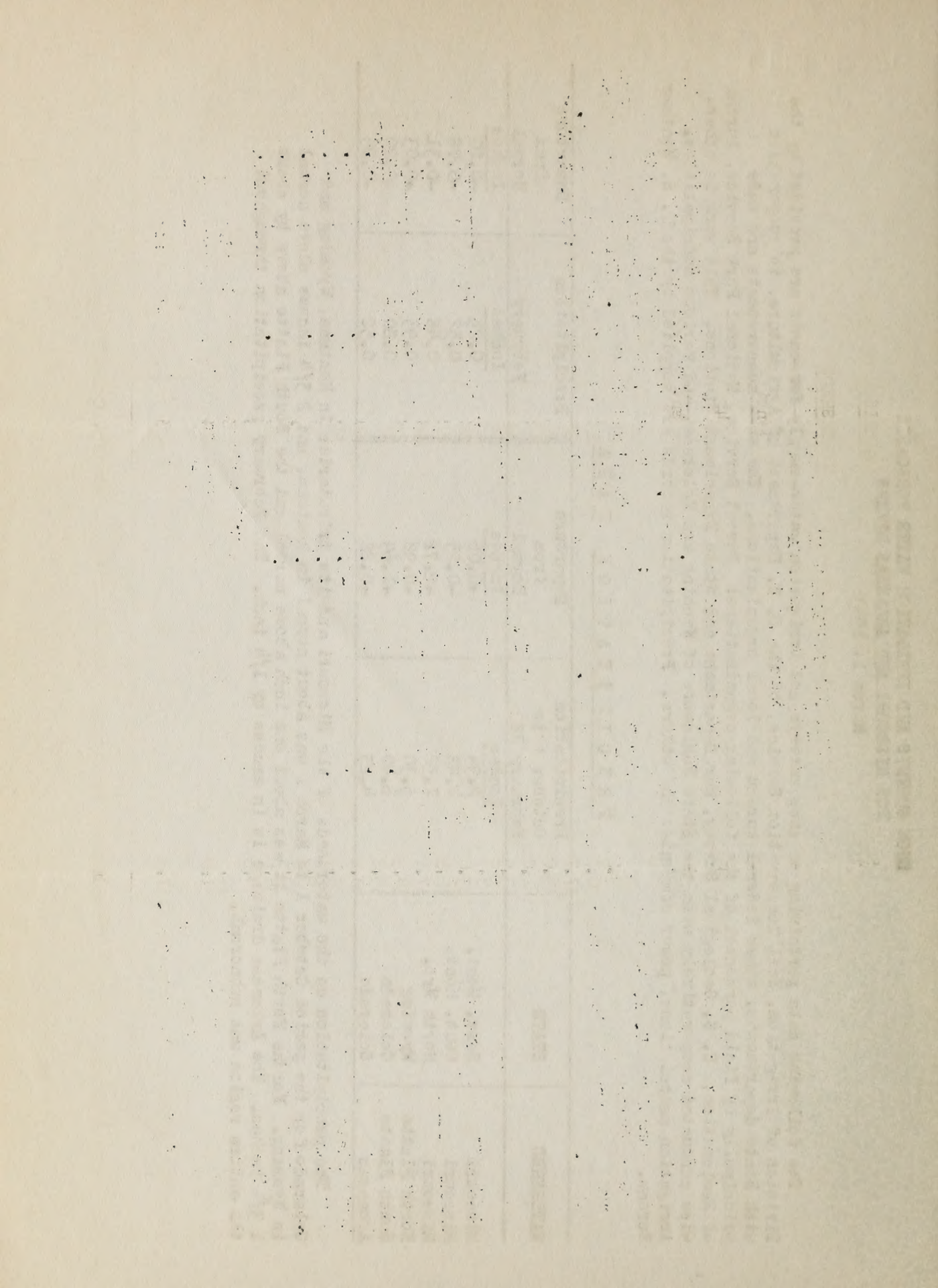
March 1, 1943

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service, of the U. S. Department of Agriculture, in cooperation with State departments, other Federal bureau and local organizations. The snow measurements are made principally by field personnel of the following organizations: Forest Service, National Park Service, Bureau of Reclamation, U. S. Geological Survey, War Department and State Experiment Stations. This work is otherwise conducted cooperatively with the State Engineers of Wyoming and Colorado, and various municipalities. Irrigation associations, power companies and others. Precipitation records are supplied by the U. S. Weather Bureau.

P R E C I P I T A T I O N D A T A

WATERSHED	STATE	Precipitation October 1 to February 28	Departure from Normal	Precipitation	Departure from Normal
		Inches	Inches	February Inches	Inches
Missouri	East. Mont.	2.99	+0.06	0.25	-0.20
Missouri	Cent. Mont.	4.53	-0.23	0.52	-0.08
Missouri	North Wyo.	7.52	+2.78	0.48	-0.31
North Platte	Wyoming	5.30	+0.93	0.93	+0.03
South Platte	Colorado	6.40	+1.69	0.80	-0.20
Arkansas	Colorado	4.23	+0.28	0.52	-0.25

The precipitation on the watersheds of the Missouri and its tributaries in Montana, Wyoming and Colorado for the period October 1 to March 1 was about normal in Montana, and 2 3/4 inches above normal in Wyoming. For the North Platte it was about one inch above normal and the South Platte above by about 1 3/4 inches. The Arkansas drainage is in excess by 1/4 inch. The February precipitation throughout the entire region was subnormal.



SUMMARY OF MARCH 1 SNOW SURVEYS AND COMPARISON OF DATA

WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth		Water Content		Number Courses in Average	Snow Density		1943 Water Content in percent of	
	Eight year Avg.*	1942	Eight year Avg.*	1943		Eight year Avg.*	1942	Eight year Avg.*	1943
MISSOURI RIVER	In.	In.	In.	In.		Percent	Percent		
Jefferson River	35.3	35.6	9.4	9.6	5	27	32	167	164
Madison River	55.3	47.2	17.0	13.3	7	31	35	168	214
Gallatin River	33.3	38.5	8.8	9.8	6	26	29	125	112
Missouri River**	29.4	30.1	7.3	7.7	11	25	26	140	132
Marias River	45.5	24.0	13.9	6.7	1	30	32	140	290
Yellowstone River	30.6	27.8	7.6	6.1	11	25	30	183	228
Milk River	17.1	19.5	4.2	4.1	1	25	28	133	136
Shoshone River	53.5	44.3	15.7	12.2	1	29	37	196	252
Bighorn River	31.0	25.4	8.2	5.5	9	26	33	209	311
Powder River	30.4	17.9	6.7	3.2	1	22	22	121	253
North Platte River	50.2	48.2	15.0	13.3	10	30	29	106	120
Sweetwater River	35.4	32.4	9.2	6.8	2	26	33	196	265
Laramie River	30.9	29.7	8.4	7.2	8	27	30	144	168
South Platte River***	19.3	25.0	4.4	5.6	3	23	27	145	114
Crow Creek	15.8	19.4	3.5	3.9	1	22	22	40	36
Poudre River	34.8	34.8	9.6	8.3	6	28	27	129	150
Big Thompson River	45.8	43.9	12.5	10.5	2	27	28	133	158
St. Vrain River	36.3	39.2	9.1	10.9	1	25	28	170	142
Boulder Creek	25.6	28.8	8.0	8.1	2	31	40	164	162
Clear Creek	44.8	40.8	12.8	9.6	2	29	33	130	173
ARKANSAS RIVER	36.9	36.3	9.5	8.4	8	26	27	106	120

*Some for shorter periods.

**Headwaters of Missouri River

***Above Denver, Colo.

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WATER SUPPLY OUTLOOK

MONTANA. Snow conditions on the headwaters of the upper Missouri River are about one-third better than a year ago. For the Jefferson the water content of snow is more than one half greater than a year ago; Madison more than double; Gallatin slightly more than a year ago; Marias nearly three times as much; Milk River a third more and the Yellowstone more than double. The recent snow surveys over the Missouri and tributary drainage areas show the greatest water content at Lewis Lake Divide, $55\frac{1}{2}$ inches. Last year it was $25\frac{1}{2}$. The snow cover in Yellowstone National Park is much heavier than in former years. Present conditions indicate that the runoff in the Missouri and its tributaries this season will be much above normal.

WYOMING. The water content of the snow on the headwaters of the Big Horn, in northern Wyoming, is three times the amount it was last year and more than twice the average. The greatest amount of water in the snow, nearly 31 inches, was found at Brooks Lake. At the T-Cross Ranch, on Horse Creek, 12 miles north of Dubois, the present water content of the snow is six times that of last year at this time. Reservoir storage on the Wind River (upper Big Horn) is at present normal. Because of the heavy snow cover on this drainage the runoff will be more than sufficient to fill all reservoirs. The runoff in the Shoshone this season will be above normal. There is now in storage, in Shoshone Reservoir, nearly 300,000 acre-feet or 65 percent of capacity and conditions are now favorable for filling before the start of the irrigation season. Soil moisture over the Shoshone Project is fair and winter stream flow normal in this section.

For the North Platte the average water content of the snow on ten courses is now 15.9 inches as compared with 13.3 a year ago. Deep wet snow covers the Snowy Range west of Laramie as well as the Old Battle area west of Encampment. The general outlook for this season's runoff in the North Platte, is at this time, very favorable. Special reference is made to the conditions on the Sweetwater, where it is expected that the runoff this coming spring will greatly exceed the normal. Storage in the principal reservoirs on the North Platte is now more than 500,000 acre-feet, the largest carry-over since 1929. Lake Minatare, in western Nebraska, now stores about 33,000 acre-feet. Soil moisture in the irrigated areas along the North Platte is fair to good. Winter river flow is normal. Snow conditions on the Powder and Tongue rivers are much improved over that of last year. On the Laramie River watershed the water content of the snow is 70 percent greater than a year ago. The greatest water content, 27 inches, was found in the snow cover at Brooklyn Lake on the east slope of the Snowy Range. The present outlook for the coming season's runoff in the Laramie is very favorable. Reservoir storage is generally normal and soil moisture conditions in the irrigated areas fair to good. Winter flow has been normal. There is ample evidence at this time that the water supply throughout Wyoming this season will be normal or better and that the main reservoirs on the North Platte will approach full capacity.

COLORADO. The outlook for the coming season's irrigation water supply is very promising for the South Platte and its tributaries as shown by the results of recent snow surveys over this drainage basin. For the South Platte, above Denver, the water content of the snow is about 15 percent greater than last year; Clear Creek more by about 75 percent; Boulder Creeks by 60 percent; St. Vrain 40 percent; Big Thompson 60 percent and

Poudre 50 percent. The water content of the snow at Silver Lakes, west of Boulder, is approximately 23 inches. Reservoir storage throughout the Platte valley and tributaries is the best in years. Soil moisture in the irrigated districts of this section of the state is fair to good. The winter flow of these streams has been normal or better and for this reason reservoir storage continues. Recent storms throughout northern Colorado have greatly improved soil moisture conditions. It is likely that a considerable amount of water in the Platte will flow out of the state unused this year.

For the Arkansas River valley, in Colorado, the outlook for the coming season's irrigation water supply is very favorable. The water content of the snow in the upper drainage area is about 20 percent greater than last year. Storage in the larger reservoirs, both mountain and plain, last year at this time totaled about 242,000 acre-feet. This storage now aggregates 376,000 or an increase of 55 percent. John Martin Reservoir on the main river near Caddoa has 40,000 acre-feet of water in storage. Soil moisture throughout the valley is fair to good and the river flow for the winter best in years. The probable runoff from the snow cover on the Fountain and the Purgatoire watersheds will be less than normal this season.

MISSOURI AND ARKANSAS RIVER WATERSHEDS
Summary of Federal and State Cooperative Snow Surveys
Issued March 10, 1943, at Fort Collins, Colo.

Main Drainage and Snow Course	Local Drainage	State	Location		Elev.	National Forest	Mar. 1 Snow Cover Measurements			
			Locality	Description			Av. Snow Depth	Av. Water Content	1942	1943
No.							In.	In.	In.	In.
JEFFERSON RIVER										
6	Camp Creek*	Idaho	6mi. N. Spencer	21-13N-36E	6800	Targhee	33.0	34.2	39.1	7.9
7	Moose Creek*	"	3mi. S. Gibbons	27-27N-21E	6200	Salmon	44.8	--	66.9	12.6
10	Gibbons Pass	Mont.	Gibbons Pass	4-2S-19W	7100	Bitterroot	59.2	54.9	82.0	18.4
30	Pipestone Pass	"	Pipestone Pass	11-1N-7W	7200	Deer Lodge	19.3	22.6	31.5	3.8
	Wise River	"	8mi. N. Polaris	15-4S-12W	8450	Beaverhead	29.8	30.9	44.0	7.4
	Elkhorn Hot Spgs.		Average for Drainage				35.3	35.6	49.2	9.4
MADISON RIVER										
2	Aster Creek*	Wyo.	Lewis Lake	44-3N110-6W	7700	Yel. Nat. P.	71.3	60.2	19.4	24.1
8	Lewis L. Divide*	"	3mi. S. Lewis L.	44-2N110-7W	7900	"	96.3	78.6	40.5	32.2
11	Norris Basin	"	Norris Basin	44-3N110-7W	7500	"	32.7	28.4	49.1	8.4
3	Big Springs*	Idaho	Big Springs	34-14N-44E	6500	Targhee	59.5	55.0	86.6	17.8
16	West Yellowstone	Mont.	W. Yellowstone	34-13S-5E	6700	Gallatin	37.8	34.3	56.0	10.8
	Twenty-one Mile*	"	8mi. S. Gallatin	1-11S-5E	7150	Yel. Nat. P.	47.5	41.2	66.0	13.8
	Hebgen Dam	"	Hebgen Dam	22-11S-3E	6550	Gallatin	41.8	32.5	47.0	12.1
			Average for Drainage				55.3	47.2	80.7	17.0
GALLATIN RIVER										
	Devil's Slide	Mont.	20mi. S. Bozeman	14-5S-6E	8100	Gallatin	51.3	58.6	60.0	14.2
	Hood Meadow Extn.	"	14mi. "	22-4S-6E	6600	"	27.4	33.2	33.0	6.3
	Mystic Lake No. 1	"	12mi. SE.	31-3S-7E	6600	"	24.0	32.0	23.5	6.1
	Mystic Lake No. 2	"	"	31-3S-7E	6600	"	22.3	29.0	20.4	5.3
	Twenty-One Mile	"	8mi. S. Gallatin	1-11S-5E	7150	Yel. Nat. P.	47.5	41.2	66.0	13.8
	Ross Peak	"	12mi. N. Bozeman	10-1N-6E	7000	Gallatin	27.5	37.0	23.3	6.8
	New World Trail	"	8mi. SE. Bozeman	13-3S-6E	7000	"	--	37.0	--	7.9
			Average for Drainage				33.3	38.5	37.7	8.8
										11.0

*On adjacent drainage

#Readings Feb. 15

@Average for period of record.

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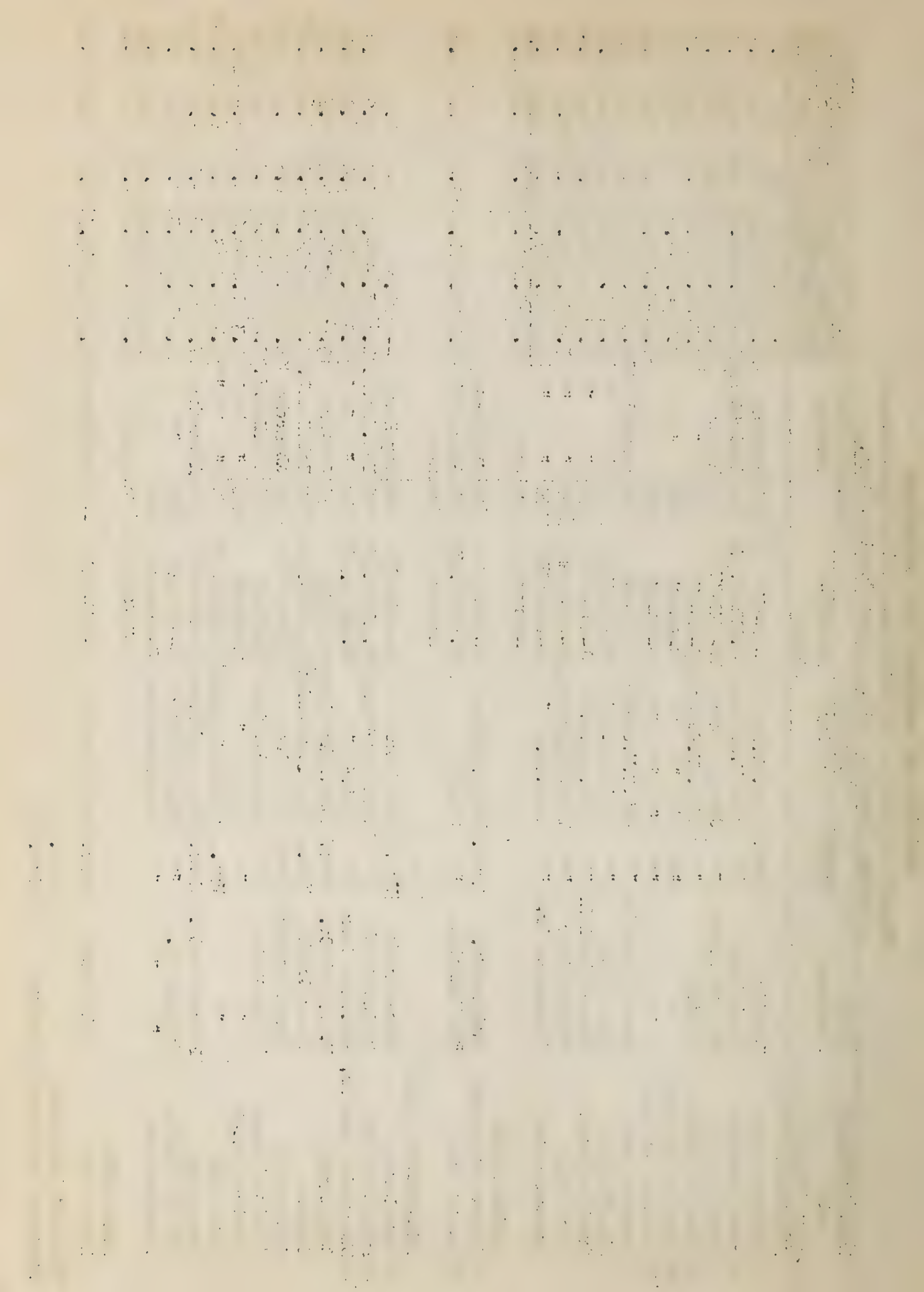
Main Drainage and Snow Course		Local Drainage	State	Location		Elev.	National Forest	Mar. 1 Snow Cover Measurements			
No.	Snow Course			Locality	Description			Av. Snow Depth	Av. Water Content	Av. Snow Depth	Av. Water Content
MISSOURI RIVER											
6	Chessman Res.	Tennile	Mont.	11mi. SW. Helena	2-8N-6W	6200	Helena	In. 16.9	In. 4.4	In. 17.4	In. 4.2
11	Goat Mountain	South Fork	"	26mi. W. Gilman	47.5N112.9W	7000	Lewis & Clark	29.3	7.4	48.8	3.9
36	Stemple Pass	Canyon Creek	"	Stemple Pass	16-13N-7W	6900	Helena	32.9	7.9	46.0	5.6
41	Tennile Cr. Lower	Tennile	"	17mi. SW. Helena	13-8N-6W	6250	"	23.9	5.3	37.0	6.9
42	Tennile Cr. Middle	"	"	"	13-8N-6W	6800	"	33.2	7.7	48.0	9.4
43	Tennile Cr. Upper	"	"	"	19-8N-5W	8000	"	38.0	10.0	52.0	11.9
	Grasshopper	Grasshopper Cr.	"	6mi. S.W. S. Spgs	19-9N-8E	7000	Lewis & Clark	18.8	4.1	25.6	4.8
	King's Hill	Belt Creek	"	21mi. N.W. S.	35-13N-7E	7950	"	41.6	10.2	48.0	10.1
	Orville Harris	Mussellshell R.	"	12mi. E.W. S.	31-10N-9E	6500	"	18.6	4.0	28.3	4.0
	Half Moon	Judith River	"	19mi. S. Lewiston	22-12N-18E	6000	"	27.0	7.9	30.8	10.2
	Crystal Lake	Flatwillow Cr.	"	18mi. SE.	24-12N-17E	5500	"	42.8	11.7	37.0	13.5
				Average for Drainage				29.4	7.3	30.1	7.7
MARIAS RIVER											
7	Desert Mountain*	Outbank Cr.	Mont.	4mi. S. Belton	24-31N-19W	5600	Flat Head				
20	Marias Pass	Two Medicine	"	Summit	48.3N113.4W	5250	Glacier NP	45.5	13.9	61.0	6.7
				Average for Drainage							
YELLOWSTONE RIVER											
14	Domo Lake	Goose Creek	Wyo.	Domo Lake	11-53N-87W	8800	Big Horn	--	--	20.6	4.7
40	Lupine Creek	Lupine Creek	"	11mi. SE Gardiner	44.9N110.6W	7300	Yel. Nat. P.	31.6	7.8	54.2	5.9
41	Blacktail Deer Cr.	Blk. Tail Deer	"	11mi. " "	44.9N110.6W	7500	"	35.8	9.0	59.4	6.9
	Camp Senia	W. Br. Rock Cr.	Mont.	10mi. W. Red Ldg.	12-8S-18E	7870	Guster	19.6	4.3	34.8	5.8
3	Canyon	Tower Creek	Wyo.	8mi. N. Canyon City	44.7N110.5W	7750	Yel. Nat. P.	39.1	9.3	58.2	6.6
	Cooke City	Soda Bottle Cr.	Mont.	Cooke City	25-9S-14E	7400	Absaroka	26.0	6.8	38.2	5.2
	Crevice Mtn. #1	Yellowstone	"	6mi. E. Gardiner	26-9S-9E	8400	Yel. Nat. P.	33.2	8.2	46.5	5.5
	Crevice Mtn. #2	"	"	7mi. " "	26-9S-9E	8300	"	32.3	8.3	46.0	5.4
7	Lake Camp	"	Wyo.	3mi. NE. Fishing Br.	44.6N110.4W	7850	"	38.4	9.0	63.5	6.7
	Porcupine	Porcupine Cr.	Mont.	12mi. NE. Wilsall	110-4N-10E	6500	Absaroka	17.3	4.0	19.5	4.8
	Hell's Canyon	Boulder Cr.	"	26mi. SE. Livingston	23-5S-12E	6000	"	12.9	3.0	16.3	3.2
	Independence	"	"	26mi. NE. Gardiner	22-7S-12E	8000	"	49.9	14.1	68.1	11.5
				Average for Drainage				30.6	7.6	45.9	6.1
MILK RIVER											
	Rocky Boy	Milk River	Mont.	Bear Paw Mt.	15-28N-16E	---	Off Forest	17.1	4.2	19.7	4.1

*Adjacent Drainage

Feb. 12

@Average for period of record

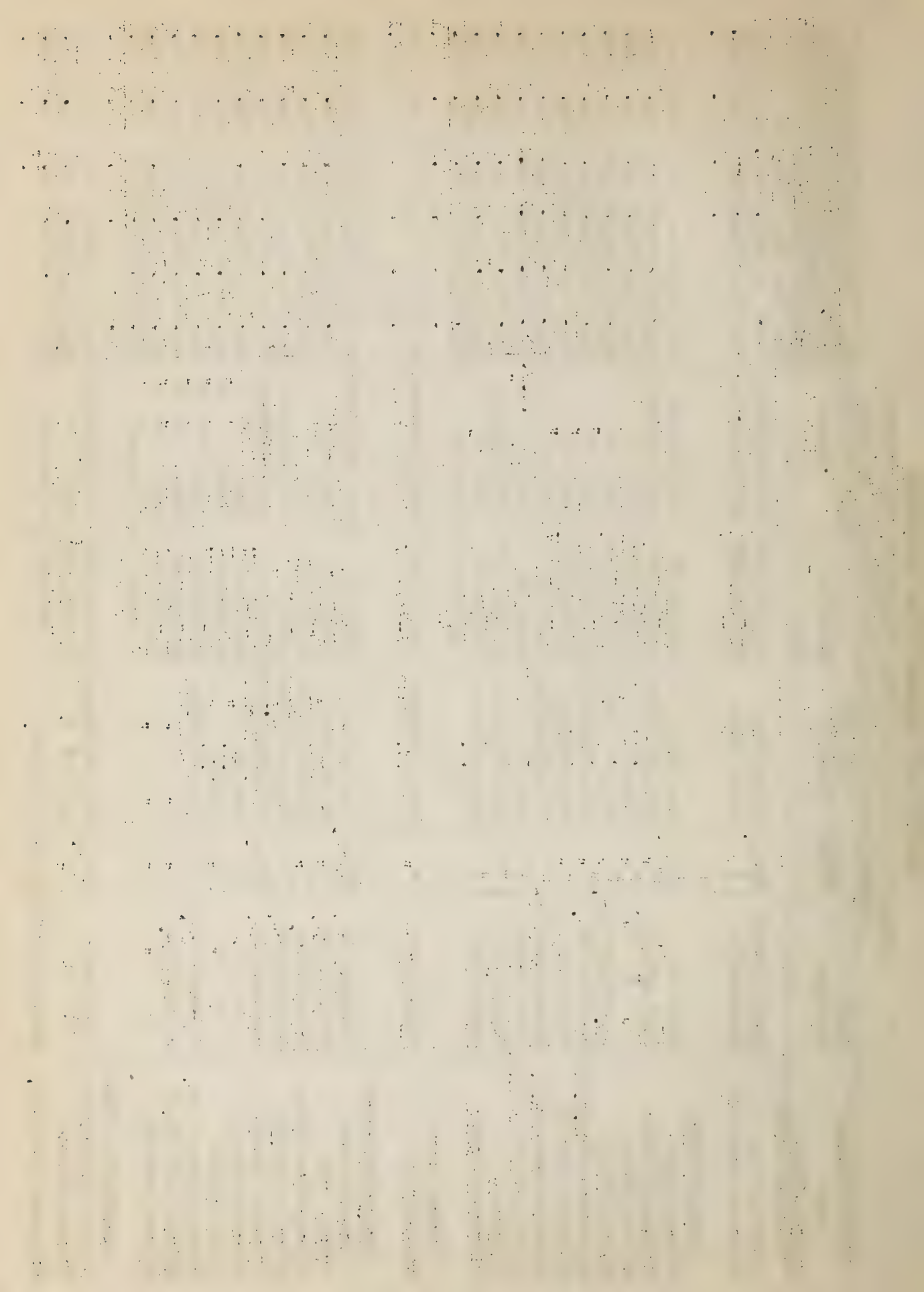
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Main Drainage and Snow Course	Local Drainage	State	Location		Elev.	National Forest	Mar. 1 Snow Cover Measurements			
			Locality	Description			Av. Snow Depth	1942	1943	1942
No. 32 SHOSHONE RIVER							Av. @	In.	In.	In.
32 Sylvan Pass	Middle Creek	Wyo.	Sylvan Pass	12-52N-110W	7100	Yel. Nat. P.	---	---	---	In.
50 Brooks Lake #3*	Shoshone R.	"	Brooks Lake	23-44N-110W	9200	Washakie	53.5	44.3	83.0	15.7
BIGHORN RIVER										
14 Dome Lake*	Shell Cr.	Wyo.	Dome Lake	11-53N-87W	8800	Bighorn	---	20.6	---	4.7
45 Sawmill Glade	Popo Agie R.	"	13mi. SW. Lander	3-31N-101W	8500	Washakie	19.6	20.9	35.5	3.3
46 Blue Ridge	"	"	15mi. " "	23-31N-101W	9500	"	28.7	28.8	48.8	5.8
47 South Pass	L. Popo Agie R.	"	19mi. " "	13-30N-101W	9000	"	35.2	31.5	55.4	6.4
49 Sheridan Cr. R. S. #2	Sheridan Cr.	"	16mi. NW. Dubois	3-42N-109W	7500	"	23.0	17.6	45.8	3.2
50 Brooks Lake #3	Wind River	"	Brooks Lake	23-44N-110W	9200	"	53.5	44.3	83.0	15.7
51 St. Lawrence R. S.	St. Lawrence Cr.	"	27mi. NW. Lander	26-11N-4W	9000	Shos. I. R.	26.4	19.4	46.1	7.1
52 Mosquito Park R. S.	Trout Creek	"	18mi. " "	23-28-3W	9500	"	30.6	26.4	50.8	7.9
53 DuNoir	Wind River	"	9mi. NW. Dubois	27-42N-108W	8750	Washakie	35.0	24.7	54.7	9.3
54 T-Cross Ranch	Horse Creek	"	12mi. N. Dubois	1-43N-107W	8000	"	25.8	14.8	49.0	7.7
				Average for Drainage			31.0	25.4	52.1	8.2
POWDER RIVER										
30 Red Fork	Middle Fork	"	23mi. W. Kaycee	18-43N-85W	7500	Off Forest	30.4	17.9	37.1	6.7
NO. PLATTE RIVER										
1 Cameron Pass	Michigan Cr.	Colo.	Cameron Pass	2-6N-76W	10300	Roosevelt	49.3	49.6	56.6	15.6
7 Park View	Illinois Cr.	"	7mi. SE. Rand	24-5N-78W	9200	Routt	31.0	32.3	31.2	7.6
8 Columbine Lodge	Grizzly Cr.	"	Rbt. Ears Pass	21-5N-82W	9300	"	63.4	59.6	70.0	18.4
62 Willow Cr. Pass	Illinois Cr.	"	Willow Cr. Pass	1-4N-78W	9500	Arapaho	36.9	40.1	38.4	9.3
7 Bottle Creek	Encampment Cr.	Wyo.	7mi. SW. Encampment	24-14N-85W	8200	Medicine Bow	37.7	36.7	39.4	10.5
8 Webber Spring	"	"	10mi. W. "	27-14N-85W	9000	"	46.3	45.2	51.7	13.1
9 Old Battle	"	"	12mi. W. "	29-14N-85W	9800	"	76.6	75.4	77.8	24.8
37 North French Cr.	N. French Cr.	"	Cent. Saratoga	27-16N-80W	10200	"	73.3	59.3	91.4	24.4
38 N. Barrett Cr. #2	Barrett Cr.	"	"	30-16N-80W	9400	"	53.8	47.7	61.6	15.6
39 Ryan Park #2	"	"	"	34-16N-81W	8400	"	33.8	35.7	30.5	10.6
				Average for Drainage			50.2	48.2	54.9	15.0
SWEETWATER RIVER										
29 Grannier Meadows	Rock Creek	Wyo.	20mi. SW. Lander	19-30N-100W	9000	Washakie	35.6	33.2	54.9	9.1
47 South Pass*	"	"	19 " " "	13-30N-101W	9000	"	35.2	31.5	55.4	9.4
				Average for period of record.			35.4	32.4	55.2	9.2

*Adjacent Drainage.



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No.	Snow Course	State	Locality	Description	Av. Snow Depth			Av. Water Content	1942	1943	1944
LARAMIE RIVER											
3	Brooklyn Lake	Wyo.	7mi. NW. Centennl	11-16N-79W	10200	Medicine Bow	In. 50.8	In. 16.9	In. 13.3	In. 26.8	
11	Fox Park	"	Fox Park	21-13N-78W	9200	"	27.5	7.1	7.0	7.5	
34	Pole Mountain #2*	"	10mi. SE. Laramie	35-15N-72W	8700	"	15.8	3.5	3.9	1.4	
35	Libby Lodge #2	"	3mi. NW. Centennl	29-16N-78W	8700	"	26.4	6.9	5.8	11.0	
36	Hairpin Turn #2	"	5mi. NW. Centennl	24-16N-79W	9500	"	28.6	7.9	6.0	14.8	
4	W. Port. G-P. Tunnel	Colo.	4mi. N. Chambers	17-8N-75W	8600	Roosevelt	26.5	6.9	5.0	9.7	
50	Deadman Hill*	"	10mi. W. R. Feather	26-10N-75W	10200	"	39.0	9.9	9.0	13.9	
71	Deadman Hill #2*	"	8mi. SW. "	6-9N-74W	10200	"	32.6	8.2	7.4	11.7	
88	Roach	"	8mi. NW. Glendevy	5-10N-77W	9800	"	56.0	--	13.6	--	
							30.9	8.4	7.2	12.1	
SOUTH PLATTE RIVER											
14	Hoosier Pass	Colo.	Hoosier Pass	13-8S-78W	11400	Pike	33.2	8.0	9.2	11.7	
15	Fairplay	"	Fairplay	33-9S-77W	10000	"	3.6	0.5	1.2	0.0	
83	Jefferson Cr. #2	"	5mi. NW. Jefferson	14-7S-76W	10100	"	21.0	4.8	6.4	7.4	
							19.3	4.4	5.6	6.4	
CROW CREEK											
34	Pole Mountain #2	Wyo.	10mi. SE. Laramie	35-15N-72W	8700	Medicine Bow	15.8	3.5	3.9	1.4	
POUDRE RIVER											
1	Cameron Pass	Colo.	Cameron Pass	2-6N-76W	10300	Roosevelt	49.3	15.6	13.6	17.0	
2	Chambers Lake	"	Chambers Lake	6-7N-75W	9000	"	21.3	5.3	4.9	8.3	
3	Big South	"	2mi. E. Chambers	33-8N-75W	8600	"	9.3	1.8	1.4	2.5	
50	Deadman Hill	"	10mi. W. R. Feather	26-10N-75W	10200	"	39.0	9.9	9.0	13.9	
65	Lake Irene*	"	1mi. SW. Milner	18-5N-75W	10600	Ry. Mtn. NP	57.4	16.6	13.4	21.1	
68	Hour Glass Lake	"	2mi. N. W. Pingree	18-7N-73W	9500	Roosevelt	--	--	5.7	11.7	
71	Deadman Hill #2	"	8mi. SW. R. Feather	6-9N-74W	10200	"	32.6	8.2	7.4	11.7	
							34.8	9.6	8.3	12.4	
BIG THOMPSON											
65	Lake Irene*	Colo.	1mi. SW. Milner	8-5N-75W	10600	Ry. Mtn. NP	57.4	16.6	13.4	21.1	
95	Hidden Valley #2	"	9mi. W. Estes P.	23-5N-74W	9550	"	34.3	8.4	7.6	12.2	
							45.8	12.5	10.5	16.6	

*Adjacent Drainage

@Average for period of record

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Main Drainage and No. Snow Course	Local Drainage	Location		Elev.	National Forest	Mar. 1 Snow Cover Measurements					
		State	Locality			Descrip- tion	Av. Snow Depth	Av. Water Content	1942	1943	
41 ST. VRAIN RIVER Wild Basin	N. St. Vrain R.	Colo.	5 mi. W. Allen's P.	10000	Ry. Mtn. NF	36.3	39.2	54.6	9.1	10.9	15.5
BOULDER CREEK											
5 E. Port. Moffat T.	S. Boulder Cr.	Colo.	East Portal	9400	Roosevelt	10.2	9.1	9.8	2.7	2.4	3.4
60 University Camp #2	N. Boulder Cr.	"	5 mi. SW. Ward	10300	"	40.9	48.4	55.0	13.4	13.8	22.8
			Average for Drainage			25.6	28.8	32.4	8.0	8.1	13.1
CLEAR CREEK											
61 Loveland Pass #2	Clear Creek	Colo.	10 mi. W. Georgetown	10100	Arapaho	38.9	36.3	45.9	9.7	7.7	13.2
97 Grizzly Peak*	"	"	1 mi. W. Loveland P.	11250	"	50.8	45.3	56.2	15.8	11.6	19.9
			Average for Drainage			44.8	40.8	51.0	12.8	9.6	16.6
ARKANSAS RIVER											
19 Tennessee Pass	Tennessee Cr.	Colo.	Tennessee Pass	10200	Cochetopa	33.2	37.2	33.9	7.9	8.2	8.2
21 Twin Lakes Tun.	Lake Creek	"	9 mi. W. Twin Lakes	10500	"	31.5	33.6	34.4	8.7	7.8	10.2
42 Marshall Creek*	Poncha Creek	"	Marshall Pass	10800	"	41.9	39.9	41.8	10.5	9.2	11.6
43 Poncha Creek	"	"	"	10500	"	31.7	32.4	35.5	8.6	8.4	10.5
72 Whiskey Creek #2	Whiskey Cr.	"	Whiskey Cr. P.	10300	Maxwell Grant	23.2	16.7	13.5	6.3	3.8	2.9
74 LaVeta Pass #2*	Cuchara Cr.	"	LaVeta Pass	9300	San Cristó Gr	30.8	24.3	26.7	6.8	3.7	5.7
78 Four Mile Park #2	Lake Creek	"	3 mi. SW. Twin L.	9700	Cochetopa	12.5	---	15.1	3.0	---	3.3
79 Fremont Pass #2	E. Fork Ark. R.	"	Fremont Pass	11400	Arapaho	49.8	50.7	55.8	12.5	12.9	15.3
92 Monarch Pass	S. Fork Ark. R.	"	Monarch	10500	Cochetopa	53.3	55.5	57.0	14.5	13.6	16.7
			Average for Drainage			36.9	36.3	37.3	9.5	8.4	10.1

*Adjacent Drainage

@Average for period of record

